A Summary of Information on the Seasonal Distribution and Abundance of Walrus (*Odobenus rosmarus*) in the Area of Northern Hudson Bay and Western Hudson Strait, NWT, as Collected from Local Hunters

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by

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ABSTRACT

Orr, J.R., and T. Rebizant. 1987. A summary of information on the seasonal distribution and abundance of walrus (Odobenus rosmarus) in the area of northern Hudson Bay and western Hudson Strait, NWT, as collected from local hunters. Can. Data Rep. Fish. Aquat. Sci. 624: iv + 16 p.

Interviews were conducted with Inuit hunters from Coral Harbour and Cape Dorset to document their knowledge towards the seasonal distribution and abundance of walrus in the area of northern Hudson Bay and western Hudson Strait. Information on their preferred hunting areas and seasons was also obtained. This report presents a summary of this information and recommendations made by the hunters on the timing and location of future aerial surveys.

Key words: harvesting; Inuit hunting; marine mammals; pinnipeds.

RÉSUMÉ

Orr, J.R., and T. Rebizant. 1987. A summary of information on the seasonal distribution and abundance of walrus (Odobenus rosmarus) in the area of northern Hudson Bay and western Hudson Strait, NWT, as collected from local hunters. Can. Data Rep. Fish. Aquat. Sci. 624: iv + 16 p.

On a rencontré des chasseurs inuit de Coral Harbour et de Cape Dorset afin de recueillir ce qu'ils savent de la distribution et de l'abondance saisonnières du morse dans le secteur du nord de la baie d'Hudson et de l'ouest du détroit d'Hudson. On leur a également demandé d'indiquer leurs lieux et périodes de chasse préférés. Ce rapport renferme un résumé de ces renseignements ainsi que les recommandations des chasseurs quant au moment et à l'endroit appropriés pour les futurs relevés aériens.

Mots-clés: prises; chasse par les Inuit; mammifères marins; pinnipède.

INTRODUCTION

The walrus (Odobenus rosmarus rosmarus (Linneaus)) of Hudson Bay and Hudson Strait have historically been a source of food for Inuit and their dogs. Although the number of dog teams has decreased in the last 20 years, walrus hunting is still a traditional part of many hunters' seasonal routine. Cash revenue from raw or carved ivory tusks help pay for fuel, ammunition, etc. and make walrus meat a relatively inexpensive source of country food for the hunter and his dependents (Orr et al. 1986).

Information on the present size of the northern Hudson Bay, western Hudson Strait walrus stock is basically lacking (Davis et al. 1980). During the mid 1950's Mansfield (1958) and Loughrey (1959) investigated and described various aspects of walrus biology. Most of their field work was done in the Southampton Island and Coats Island region. At that time an aerial survey of terrestrial haul-out sites detected about 3000 walrus. A repeat survey in 1961 found a similar number of animals in the same area (Mansfield 1973). St. Aubin (Department of Pathology, University of Guelph, Guelph, Ontario, personal communication), also conducted aerial and ground surveys during 1976 and 1977 in the same area and counted a maximum of 2350 walrus on 26 July 1977. No walrus abundance information for this area has been published since that time.

The walrus stock in question is hunted by residents of Coral Harbour and Cape Dorset and possibly those of northern Quebec. The hunters from the Northwest Territories have a restricted catch, by means of a quota system. However, without knowing walrus abundance, assessment of the impact of the hunt on the stock is not possible.

The most effective means of determining marine mammal numbers is by conducting aerial surveys, but proper timing and coverage is essential for optimum results. In order to clarify the timing and coverage for a proposed aerial survey a questionnaire was designed and distributed to the walrus hunters of Coral Harbour and Cape Dorset. Information on walrus seasonal distribution, abundance and movements, along with preferred walrus hunting areas, seasons and hunter techniques was obtained. The results of the questionnaire are presented in a summarized form in this data report.

METHODS

WALRUS HUNTER INTERVIEW

Interviews were conducted with walrus hunters in the communities of Coral Harbour and Cape Dorset during the summer of 1985. A standardized questionnaire was designed so that each individual responded to the same question (Appendix 1). The local Hunters and Trappers Association (HTA) executive supplied a list of names of the walrus hunters in their community. The interviewer and an interpreter contacted the walrus hunters at their residence and asked them if they were willing to respond to the questionnaire.

DATA ANALYSIS

Information from the questionnaire was manually sorted by season and area. Seasons were defined as winter (November 1 to March 31), spring (April 1 to June 30), summer (July 1 to August 31) and fall (September 1 to October 31). The areas identified as walrus hunting locations were placed on maps, by season. All the place names are illustrated in Fig. 1. The number of walrus observed in relation to ice, land and water in a given area, as reported by the hunters, were put into tabular form (Table 1 and 2). Areas recommended for aerial surveying and the number of recommendations identified for each place were also listed in tabular form (Table 3).

RESULTS

Thirty and 18 walrus hunters were interviewed from Coral Harbour and Cape Dorset, respectively. Most hunters were reluctant to convey any personal information regarding their techniques and success, but all were willing to provide information about the number and location of walrus sightings during their hunts.

CORAL HARBOUR HUNTER RESPONSES

Winter

In winter walrus can be found along the floe edge from Leyson Point to Hut Point (Fig. 2). Sightings in most of these areas were usually less than 100 walrus (Table 1). As many as 1 000 walrus have been observed at the floe edge off Ruin Point, although sightings of less than 500 were more commonly reported. Hunters have also seen as many as 500 in the waters around South Bay. Most of these sighting were of walrus swimming near the floe edge. Travelling to areas beyond the floe edge or far from the community is difficult and dangerous in the winter so hunters tend to stay relatively close to the community, on fast ice. Consequently, this limits the extent of their knowledge of the total winter distribution.

Spring

The few observations made in the spring were mostly in the area of South Bay, between Native Point and Ruin Point (Fig. 3). Most sightings were of groups less than 100 (Table 1). The highest concentrations of walrus appeared to be at the floe edge near Renny Point, numbering up to 500. In the later part of spring when the ice begins to break up, walrus appeared in numbers greater than 500 near Leyson Point.

Summer

Coral Harbour hunters reported the largest number of walrus observations during the summer

months (Table 1). Sightings were common from Sea Horse Point, west along Bell Peninsula, to Ruin Point (Fig. 3). One hunter also reported seeing an undetermined number of walrus in Duke of York Bay. The areas most used by hunters are Walrus Island, Bencas Island, the north and east side of Coats Island and Evans Strait. Concentrations of 1 000 or more are common in these areas. Walrus prefer hauling out on ice rather than land, therefore, their distribution varies with the amount of ice in Evans Strait. Peterhead boats are most often used to hunt walrus during the open water season although cedar strip freighter canoes are also used. The walrus are taken while hauled-out on ice floes or while swimming in the water. Many hunters stated that they did not hunt around terrestrial haul-out sites because they thought that the walrus would not return if they were repeatedly harassed.

Fall

There appears to be a localized walrus migration in the early fall, from the Coats Island and Walrus Island area, across Evans Strait since more walrus were seen along the southeast side of Southampton Island (Fig. 5). Hunters have observed more than 1 000 walrus hauled-out or swimming in the area of Cape Pembroke in late September (Table 1). There was no mention of walrus inhabiting the area of Bencas Island or Walrus Island however. Several men interviewed said that in the last few years there seemed to be an increase in walrus numbers near the community in the fall. Some of the hunters attributed this shift in distribution to recent seismic surveys in Hudson Bay.

CAPE DORSET HUNTER RESPONSES

Winter

In winter walrus are sporadically distributed along the coast of Foxe Peninsula from Cape Dorchester to Chamberlain Island (Fig. 2). The largest number of walrus appears to be around Cape Dorchester (Table 2). The few hunters that venture to Salisbury Island and Nottingham Island reported as many as 500 walrus in the area between the islands. Most sightings in other areas were of groups from 20-50. Other areas where as many as 1 000 walrus have been observed were Cape Enavolik, Shuke Island and Sakkiak Island. The majority of these sightings were of walrus swimming or hauled-out on floating pack ice near the floe edge.

Spring

In spring, walrus can be seen from Cape Dorchester to Dorset Island (Fig. 3). Group sizes of up to 1 000 walrus were common along the coast (Table 2). Groups around the north tip of Salisbury Island and the southeast side of Nottingham Island did not vary from winter numbers of 500 or more. The area around Cape Dorchester was said to have concentrations of 1 000 or more walrus. The majority of observations in the spring were of walrus hauled-out on floating pack ice.

Summer

Walrus numbers seem to decrease in the vicinity of Cape Dorset in the summer (Fig. 4). Observations indicate that walrus prefer the area along the west coast of Foxe Peninsula, from Lloyd Point to the group of islands north of Cape Dorchester (Table 2). Hunters have observed walrus while travelling around the islands of Mills, Salisbury and Nottingham in late summer, but usually hunt them along the west coast of Foxe Peninsula. Between 500 and 1 000 walrus have been observed along the south, west and north coasts of Salisbury Island and along the southeast coast of Nottingham Island. Concentrations of 1 000 or more are also observed around Cape Dorchester during July and August. One hunter felt there was over 5 000 walrus around Cape Dorchester and the small islands to the north.

Fall

The fall distribution of walrus reported by Cape Dorset hunters is similar to that of the summer months, with a slight decrease in the numbers along the northwest coast of Foxe Peninsula (Fig. 5). There could be a movement towards the islands in Hudson Strait at this time because reports indicate an increase in animals around Nottingham and Salisbury Islands (Table 2).

SUMMARY

Walrus are present in northern Hudson Bay and western Hudson Strait throughout the year. Concentration areas vary with the seasons and are influenced by the availability of floating pack ice suitable for hauling-out. During the winter walrus occur off the floe edge along the south and southeast coast of Southampton Island and the west and southwest coast of Foxe Peninsula. In late spring and summer walrus tend to favor being amongst the floating pack ice in Evans Strait and Hudson Strait. Concentrations around terrestrial haul-out sites increases as pack ice decreases in summer. Therefore, areas suitable for land haul-outs, such as Bencas Island, Walrus Island, Coats Island, Mills Island, Nottingham Island and Salisbury Island have increased numbers of walrus around them in the fall.

The hunters from Coral Harbour and Cape Dorset encounter walrus throughout the year, however most hunting occurs in late summer and early fall. Hunts take place from boats during this time of year and the hunters feel the walrus are more accessible when hunted in this manner.

Most hunters suggested late summer as the best time to conduct an aerial survey (Table 3). The south coast of Southampton Island from Seahorse Point to Ruin Point, Evans Strait and around the islands of Walrus, Bencas and northern Coats was the survey area suggested by Coral Harbour hunters. The Cape Dorset hunters suggested flying from Cape Dorchester to Cape Dorset and the area between Nottingham Island and Salisbury Island.

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Table 1. Walrus distribution and abundance, for each season, as reported by Coral Harbour hunters. (#) indicates number of same observation (>1).

Location of Sighting	Walrus Observed On or In	Number Observed			
		Winter	Spring	Summer	Fall
Terror Point	Ice				
	Land	100			500
	Water				
Sea Horse Point	Ice				
	Land			500	
	Water			500	500
Leyson Point	Ice				
	Land	100	500	30,100	500
	Water				
Native Point	Ice		20(2)	25,100(2),500	
	Land	100			
	Water			20,30,100(3), 1000(2)	200,500(2)
Prairie Point	Ice	25	15		100,500
	Land				500
	Water	15		100	500
Coral Harbour	Ice				
	Land				
	Water			500	500(2)
South Bay	Ice			100,300	500
	Land				
	Water	500	500		
Renny Point	Ice				
	Land		500	500	
	Water	2,100			
Ruin Point	Ice	100		1000	
	Land				
	Water	50(2),100, 500(2),1000	20		500
Bear Cove Point	Ice				
	Land				
	Water	50			
Hut Point	Ice				
	Land				
	Water	25,50			

Table 1 Cont'd.

Location of Sighting	Walrus Observed On or In	Number Observed			
		Winter	Spring	Summer	Fall
Walrus Island	Ice				
	Land			500,1000(10)	
	Water			1000	
Bencas Island	Ice				
	Land			700,1000(6)	
	Water			1000	
Cape Prefontaine	Ice				
	Land			1000(5)	
	Water				
Cape Pembrooke	Ice				
	Land			1000	1000
	Water				
Coats Island	Ice				
	Land			1000(3)	
	Water			500,1000	
Evans Strait	Ice			100,1000	100
	Land				
	Water				
Duke of York Bay	Ice			Unknown number	
	Land				
	Water				

Table 2. Walrus distribution and abundance, for each season, as reported by Cape Dorset hunters. (#) indicates number of same observation (>1).

Location of Sighting	Walrus Observed On or In	Number Observed			
		Winter	Spring	Summer	Fall
Cape Dorchester	Ice		1000,1000	1000(3), 1000(2),5-6000	1000
	Land	5-6000		1000	
	Water			1000	
Nabukjuak Bay	Ice			1000	
	Land		1000	1000	
	Water				
Nuwata	Ice		1000	1000,1000	
	Land				
	Water				
Cape Enavolik	Ice			1000	1000
	Land				
	Water	1000			
Cape Queen	Ice		100,1000		
	Land				
	Water		1000	2000	
Lloyd Point	Ice	50	30,1000	100	10
	Land				
	Water			5	
Lona Bay	Ice				
	Land				40
	Water	20			20
King Charles Cape	Ice		30,100		
	Land				
	Water				
Shuke Island	Ice	10(2),500, 1000	3,1000		
	Land				300
	Water	20(2),100			500
Okolli Island	Ice				100
	Land	5			
	Water				
Sakkiak Island	Ice	20,1000			
	Land				
	Water				

Table 2 Cont'd.

Location of Sighting	Walrus Observed On or In	Number Observed			
		Winter	Spring	Summer	Fall
Cape Dorset	Ice		1000		
	Land				
	Water	20			
Dorset Island	Ice	500	20		
	Land				
	Water				
Floe Edge	Ice	20,50(2)			
	Land				
	Water	5,10,1000			
West Fox Island	Ice	500(2)			
	Land	5			
	Water				
Catherine Bay	Ice	20			100
	Land				
	Water				
Chamberlain Island	Ice	20			
	Land				
	Water				
Salisbury Island	Ice		500	1000	
	Land				1000
	Water	500			
Nottingham Island	Ice			500	
	Land				1000+
	Water				

Table 3. Locations suggested by hunters to be covered in summer aerial surveys of walrus.

CORAL HARBOUR HUNTERS

Place	# of Responses
Walrus Island	16
Coats Island (N.E.)	15
Bencas Island	12
Cape Pembroke	6
Cape Prefontaine	6
Sea Horse Point	5
Native Point	1
Terror Point	1
Bear Cove	1

CAPE DORSET HUNTERS

Place	# of Responses
Cape Dorchester	8
Nuwata	4
Cape Enavolik	3
Salisbury Island	3
Nottingham Island	3
Cape Oueen	2
Nabukjuak Bay	2

Fig. 1. Map of northern Hudson Bay and western Hudson Strait showing place names.

Fig. 2. Winter distribution of walrus in northern Hudson Bay and western Hudson Strait, as described by local walrus hunters.

Fig. 3. Spring distribution of walrus in northern Hudson Bay and western Hudson Strait, as described by local walrus hunters.

Fig. 4. Summer distribution of walrus in northern Hudson Bay and western Hudson Strait, as described by local walrus hunters.

Fig. 5. Fall distribution of walrus in northern Hudson Bay and western Hudson Strait, as described by local walrus hunters.

Appendix 1. Form used during interviews with Coral Harbour and Cape Dorset walrus hunters

Name (-Age) of Hunter .....

WALRUS HUNTER QUESTIONAIRE

Walrus Distribution and Abundance

I. Observations during Walrus Hunts

Observation No.-	1A	2A	3A	4A
Location-	.....	.....	.....	.....
Season (month)-	.....	.....	.....	.....
Time-	.....	.....	.....	.....
Number of Walrus and Haul-Out*- present: past:	.....	.....	.....	.....

II. Observations during Other Hunts

Observation No.-	1B	2B	3B	4B
Type of Hunt-	.....	.....	.....	.....
Location- region/grid:	.....	.....	.....	.....
Season (month)-	.....	.....	.....	.....
Time-	.....	.....	.....	.....
Number of Walrus and Haul-Out*- present: past:	.....	.....	.....	.....

III. Suggested Locations for Aerial Survey Reconnaisance

*pan ice=pi floe ice=fi uglit=u water (nearshore)=ns (offshore)=os

Appendix 1. cont'd

Name (-Age) of Hunter .....

Hunting Methods

Observation No.-	1A	2A	3A	4A
Time Span-	.....	.....	.....	.....
Origin of Hunt- community:	.....	.....	.....	.....
outpost camp:	.....	.....	.....	.....
Outpost Camp- location:	.....	.....	.....	.....
duration:	.....	.....	.....	.....
Hunters in Party- number:	.....	.....	.....	.....
names:				
Other Parties- number:	.....	.....	.....	.....
names:				
Equipment- hunting craft:	.....	.....	.....	.....
size of motor:	.....	.....	.....	.....
fuel used/trip:	.....	.....	.....	.....
rifle calibre:	.....	.....	.....	.....
Use of Harpoon- before kill:	.....	.....	.....	.....
after kill:	.....	.....	.....	.....
Response of Walrus- weather:	.....	.....	.....	.....
hunting craft:	.....	.....	.....	.....
escape distance: (minimum)	.....	.....	.....	.....
other disturbances:				

*pan ice=pi floe ice=fi uglit=u water (nearshore)=ns (offshore)=os

Name (~Age) of Hunter .....

Appendix 1. cont'd

Observation No.-	1A	2A	3A	4A
Number of Shots- (per animal)	.....	.....	.....	.....
Location of Hits-	.....	.....	.....	.....
Number of Walrus- retrieved:	.....	.....	.....	.....
lost:	.....	.....	.....	.....
Utilization of Carcass- %human/dog consumption:	.....	.....	.....	.....
other:	.....	.....	.....	.....
Sightings of Other Hunters-		yes/no		
location:	.....	.....	.....	.....
hunter origin:	.....	.....	.....	.....
number:	.....	.....	.....	.....
Prospects of Hunting- 1985 seasons:	.....	.....	.....	.....
future seasons:	.....	.....	.....	.....
Additional Comments-				